

INDUSTRIAL ENERGY NEWS

Toward a greener Ontario

- ◆ At the intersection of the environment and Ontario enterprise, a Green Industry Strategy has taken root. Involving several government ministries, the strategy encourages communities and industries to go green, and helps Ontario enterprise develop and market green products and services.
- ◆ Without a strategy, much of the growing demand for green products and services would go to



Ontario Premier Bob Rae takes a keen interest in Innovative Steam Technologies Inc., a new "green" industry.

offshore companies. As well, industry might not as readily invest in green technologies, which can improve both a company's bottom line and its competitive position.

To improve industrial capacity in the green sector, front-runner opportunities have been identified for immediate attention. These are areas where the need is most urgent and results are readily achievable.

Business Development Units (BDUs) in key ministries provide one-stop access for industry and government. They encourage joint ventures and strategic alliances, foster Canadian and international markets for green products and look at activities for green business opportunities. BDUs also broker market information, research and development, commercialization and financing information.

The BDU at Ontario Hydro develops suppliers to complement Hydro's demand management initiatives. At the Ministry of Environment and Energy, the Environment BDU focuses on waste management and pollution prevention initiatives.

The Green Market Opportunities Program (GMOP) is working with the Canadian Environmental Industries Association and other major sectors (such as automotive, pulp and paper, and mining) to solicit industry's input into the strategy. Through the GMOP, key firms take part in comprehensive dialogue and joint action, using workshops and task teams.

To develop market opportunities for the green sector, the Green Industry Strategy encourages communities to go green. A key component of the Green Community effort is a community-based initiative of household analysis and retrofit. Designed to reduce energy and water use and waste generation, the program stimulates a demand for Ontario green products and services, creates local jobs and can substantially lower infrastructure costs.

In December, Guelph became Ontario's first Green Community, launching a home visit campaign that is expected to generate up to \$20 million in local conservation spending and create up to 400 jobs. As part of the campaign, Canada Trust is preparing an innovative financing plan to provide householders with loans for improvements to in-home energy efficiency.

Several other communities have expressed strong interest in the program, and other Green Communities will be announced shortly.

To help with the greening of industry, elements of the strategy will integrate and expand existing government programs that support the analysis of energy use in industrial operations. With the advice of the Consulting Engineers of Ontario, an expanded Green Industrial Analysis and Retrofit program is being developed. The idea is to help reduce not only energy use but also water use, waste generation, and air and liquid emissions.

The program would cover three phases: an initial site assessment; then a feasibility study outlining detailed costs and benefits of retrofitting; and, if the firm decides to proceed, the retrofit implementation.

The Green Industry Strategy links resulting opportunities with Ontario suppliers, while government incentives help defray analysis expenses and the capital costs associated with the retrofit.

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Two pilot analyses have been completed and evaluated, one at an Ontario brewery and the other at a pulp and paper plant. The projects found a number of opportunities for energy and water savings and environmental improvements.

Many improvements that are related to energy and water use show paybacks of less than two years, in addition to environmental benefits. Seven more analyses are under way and, when completed, will give a clearer picture of the benefits this program holds for all stakeholders.

By making links between suppliers and markets, this strategy is a targeted way of promoting the health of both Ontario's industry and its environment.

A good example is Innovative Steam Technologies, a partnership between the Cambridge engineering firm of Nicholls-Radtke Group and U.S.-based Solar Turbines Inc. of San Diego. This new Cambridge company will be helping companies recover steam that is now lost and transform it into electricity.

To help finance IST's new manufacturing facility — which is expected to create more than 230 jobs in Ontario and open up international marketing opportunities — the Ministry of Economic Development

and Trade has made a \$4.8-million concessional loan to Nicholls-Radtke.

Commenting on the partnership, former Energy Minister Brian Charlton said: "The jobs and export earnings created by this new company are a further example of what can be achieved here in Ontario by putting more resources and effort into expanding our green industrial sector."

If your firm wants to get involved in the Green Industry Strategy, contact the Green Industry Office at the Ministry of Environment and Energy at 327-2984 for more information. Or call Mike McGee 506-5025 (Hydro BDU); David Reid (Environment BDU); Aubrey Peterson 327-2951 (GMOP); Keith Collins 327-1483 (Green Communities); or Nick Markettos 327-1213 (Industrial Analyses).

Wintry weather did not dampen spirits as Guelph officially celebrated becoming Ontario's first Green Community.



Hot technology in heat treating gets boost



Jean Lam, former assistant deputy minister, listens as Clare Beingessner, vice-president of B&W Heat Treating, explains how the IPED program has helped his company purchase a high efficiency furnace.

When it comes to metal parts for cars and planes and other things, the harder they're made the better.

That's the basis of business for B&W Heat Treating (1975) Ltd. of Kitchener, and the reason the company bought a new high-efficiency furnace developed in Ontario.

With a \$155,070 grant from the Ministry of Environment and Energy, B&W became the first buyer of a High-Efficiency Mesh Belt Carburizing (HEMBC) furnace made by Can-Eng Sales (1985) Ltd. in Niagara Falls. The furnace is used in heat treating to improve the hardness and durability of metal parts used in various industries, including the automotive and aviation industries.

The grant, representing 30 per cent of the eligible costs of the new furnace, came from the ministry's Industrial Process Equipment Demonstration (IPED) program. IPED grants are intended to increase Ontario industry's competitiveness through the use of energy-efficient advanced technologies. The program will help pay for initial demonstrations to prove the performance, energy impact and other benefits of the latest technology.

According to Clare Beingessner, B&W vice-president for technology, "It's extremely important to experiment with new technologies so as to achieve improvements in quality, productivity and competitiveness. However, these experiments are onerous for capital-intensive companies like B&W. The ministry has been extremely helpful by sharing some of the financial risks involved in this purchase."

The furnace is expected to reduce the company's costs by \$213,000 a year through savings on energy, maintenance and material handling, as well as by increasing efficiency. The workplace environment will also be improved.

The furnace strengthens B&W's competitive position as a leader in the field of heat-treating technology. And for the company that manufactures it, the furnace is an important advance that promises sales and protects jobs.

Companies take steps to save big

Spending money to save money is a tough sell in tough times. After all, capital is short and payback times need to be shorter. But as three companies are finding out, researching energy savings and making improvements needn't be a prohibitive proposition.

"In our business, we like to hear a payback of less than two years. If it's as good as one year, it's

program appears to be an excellent way to help the Ontario industrial base become more energy-efficient and more competitive," he adds.

Sergio Legati, vice-president, manufacturing, for Tonolli Canada Limited, says: "It's tough to sell shareholders on an idea unless it's been thoroughly analysed and it'll bring a quick return."

In 1992, Tonolli's Mississauga plant was analysed for potential energy savings. A recycler of non-ferrous metals, Tonolli stands to gain greater energy efficiency with improvements that will pay back in one to three years.

Commenting on the energy analysis, Mr. Legati says: "We found it very comprehensive and well prepared. It should be useful in the future in helping us make our plant more viable and more competitive."

In fact, that's exactly what IESP is designed to do. The program consists of three components: an energy analysis conducted by private-sector consulting engineers at no charge to the company; a feasibility study (up to 75 per cent funded by the ministry) to provide more detailed technical and economic information on which an implementation decision can be made; and a grant of up to 25 per cent of the project engineering costs associated with making energy improvements.

Introduced in 1987, the program has completed 557 energy analyses as of the last fiscal year-end. These analyses covered \$677 million in annual energy costs, from which potential savings of \$73 million or 10.8 per cent were identified. More than three-quarters of the analyses that have been conducted are expected to have a simple payback of three years or less.

Under the Green Industry Strategy, pilot studies are under way that extend the ministry's approach to include water use, waste management, and air and liquid emissions, as well as energy. (See cover story, *Toward a Greener Ontario*.)

The Ford Motor Company's Essex Aluminum plant in Windsor is also making improvements. With the help of an industrial retrofit grant, the plant has replaced a high-cost inefficient globar furnace with high-efficiency gas-fired radiant tube furnaces. As a result, the company is saving at least \$160,000 a year in energy costs and is pursuing other projects as well.

Earlier in 1992, an energy audit had found seven areas where consumption of electricity and natural gas could be reduced. In total, the company has the potential to save almost 14 per cent on its energy bills with a capital expenditure that would be paid back in under two years.

As costs shrink, competitiveness grows. All three of these companies are discovering that saving on energy costs is almost as easily done as said.



Former Energy Minister Brian Charlton (second from left) learns how the IESP program has helped Ford Motor Co. realize significant energy savings at its Essex aluminum plant.

usually a go," remarks John Duffy of Norton Advanced Ceramics of Canada.

Located in Niagara Falls, Norton produces abrasives such as aluminum oxide and aluminium zirconia. In 1992 the Ministry of Environment and Energy provided a free energy analysis to Norton under the Industrial Energy Savings Program (IESP).

The analysis identified 15 areas where savings representing 14 per cent of the company's annual energy costs could be gained. Even more promising was that the capital expenditure needed to fund these improvements would be paid back in just over one year.

Plant manager Tom Vincent says the analysis will serve as a guide for the company's capital program over the next three years. With the help of the Ministry of Environment and Energy's program of retrofit grants, Vincent expects to complete several improvements that would not have been justified under the company's internal capital guidelines. "The

New motor drive system cuts energy costs

It's called a variable-frequency inverter (VFI) motor drive system. What it does is make motors hum — a lot more efficiently.

Developed by Inverpower Controls Ltd. of Burlington, the VFI drive system is designed for large, high-voltage AC motors and costs about \$150 per horsepower. Providing energy savings of 30 per cent, the system usually pays for itself within two years.

Inverpower has capitalized on a big need in industry. Three-quarters of all electricity consumed by Ontario industries is used to run electric motors.

When the full flow from a fan or pump is not required, energy can be saved if the motor's speed is reduced and the fan or pump flow is maintained. The problem is that, while such systems are quite common for smaller motors, they haven't existed for larger ones that drive ventilation fans, pumps and other high-powered equipment — until now.

With a grant of \$358,000 from the Ministry of Environment and Energy's EnerSearch Program, Inverpower has developed a system that controls the speed of a large motor to match the amount of work,

or load, it needs to accommodate. The company's VFI system is designed for motors ranging from 250 to 5,000 horsepower and operating at 2,400 or 4,160 volts.

The new system has brought increased sales and drawn international interest to Inverpower. It has also enabled the company to develop skills in new areas to complement its existing base of expertise.

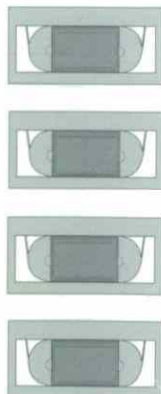
The outcome for Ontario industry is even more impressive: a system that uses less energy, lowers costs and improves competitiveness. What better tune could a motor hum?

Shown with Inverpower's new variable frequency drive system are, from right: Richard Dykstra, manager of marketing for Allen Bradley Canada Ltd.; Bob Greven, manager of EnerSearch®, Ministry of Environment and Energy; Dr. Sashi Dewan, president, Inverpower Controls Ltd.



Videos for view

If you'd like to take a closer look at the Ministry of Environment and Energy's industry programs, call us to borrow a copy of "Let's Do Business II", our new 17-minute video featuring eight industry success stories. To take a look at EnerSearch, we can provide a 15-minute video highlighting five R&D projects. Also available is a 15-minute video on the ministry's Energy-Efficient Communities Program called "Energy Matters." Simply call 1-800-ENERGY1 to borrow a copy of these videos.



Join us—be an energy partner

The ministry invites you to be an energy partner. We'd like to hear about your energy efficiency projects, and we welcome your ideas for making this newsletter more useful and informative. For more information, dial 1-800-ENERGY1 or 327-1234 in Toronto.

